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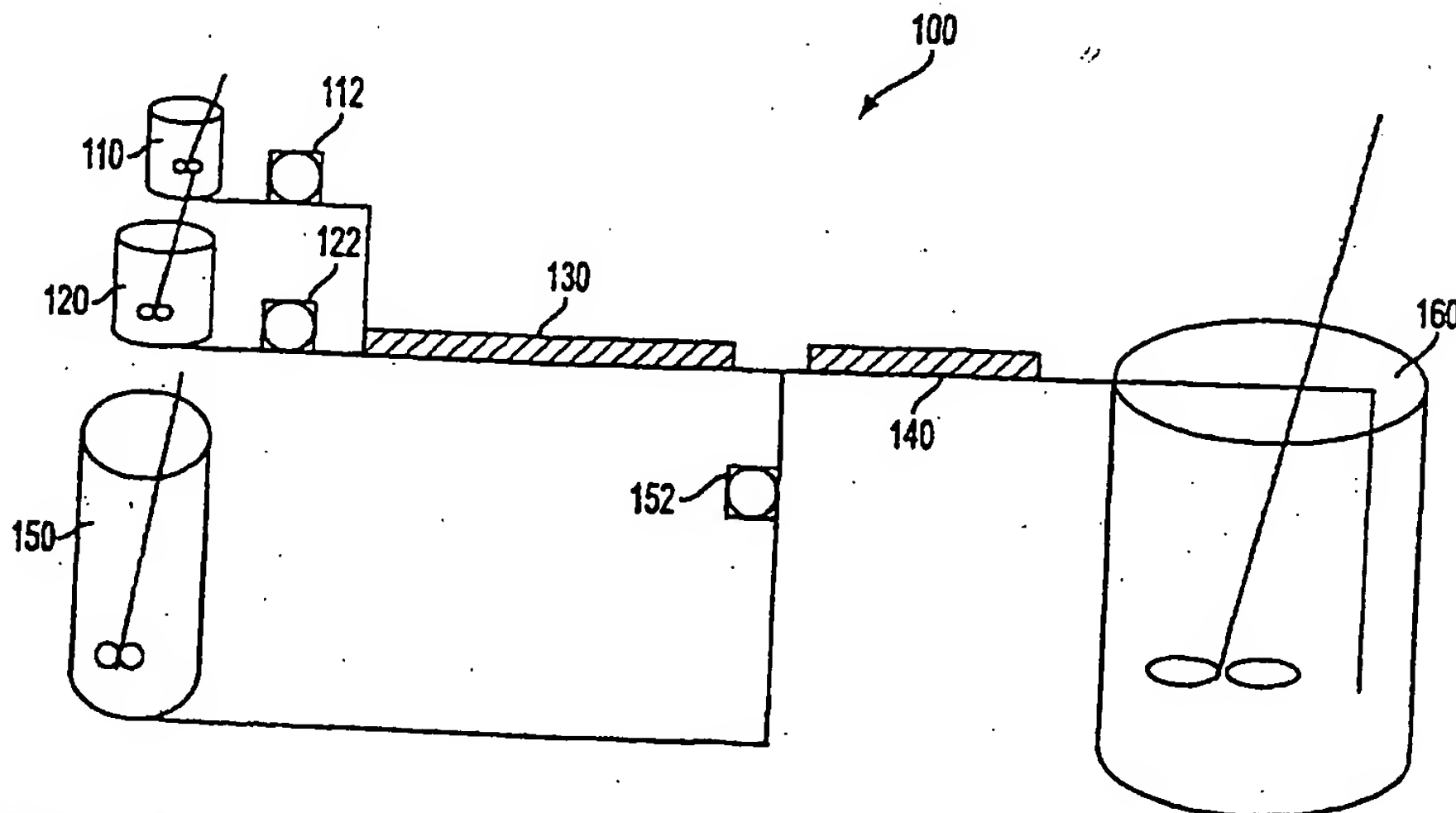
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(54) Title: APPARATUS AND METHOD FOR PREPARING MICROPARTICLES USING IN-LINE SOLVENT EXTRACTION



(57) Abstract: An emulsion is formed by combining two phases in a static mixer (130, 230). The emulsion is combined with an extraction liquid in a blending static mixer (140, 235). The outflow of the blending static mixer is combined with additional extraction liquid. The additional extraction liquid and the outflow of the blending static mixer can be combined in a vessel (160), or through the use of a static mixer manifold (240) that includes a plurality of static mixers.

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AMENDED CLAIMS

[received by the International Bureau on 31 May 2001 (31.05.01);
original claims 38 and 39 amended; remaining claims unchanged (2 pages)]

34. The method of claim 33, wherein the step of combining the at least two flow streams with the second portion of the extraction liquid comprises:

allowing the at least two flow streams to flow into a vessel containing the second portion of the extraction liquid.

35. The method of claim 33, wherein the step of combining the at least two flow streams with the second portion of the extraction liquid comprises:

combining the at least two flow streams and the second portion of the extraction liquid in a fourth static mixer.

36. The method of claim 35, further comprising:

allowing an outflow of the fourth static mixer to flow into a vessel.

37. The method of claim 33, wherein the step of combining the at least two flow streams with the second portion of the extraction liquid comprises:

combining the at least two flow streams and the second portion of the extraction liquid in a fourth static mixer and repeating this combining step until the starting volume of the extraction liquid is depleted.

38. Microparticles prepared by the method of claim 1.

39. Microparticles prepared by the method of claim 33.

40. A system for preparing microparticles, comprising:

a first pump;

a second pump;

a first static mixer in fluid communication with said first pump and with said second pump, wherein said first pump is configured to pump an organic phase into said first static mixer, and said second pump is configured to pump a continuous phase into said first static mixer;

a manifold in fluid communication with said first static mixer, said manifold comprising a plurality of static mixers;

a third pump in fluid communication with said manifold, wherein said third pump is configured to pump an extraction liquid; and

a second static mixer in fluid communication with said manifold, wherein an outflow of said first static mixer and the extraction liquid flow through said manifold and then through said second static mixer.

41. The system of claim 40, further comprising:

a vessel in fluid communication with said second static mixer, wherein an outflow of said second static mixer flows into said vessel.

42. The system of claim 40, further comprising:

a fourth pump in fluid communication with said second static mixer, wherein said fourth pump is configured to pump the extraction liquid into said second static mixer.